

**THE USE OF A VALUE CHANGE INDUCED BEHAVIOR
AS A LIFE SAVING STRATEGY**

STRATEGIC MANAGEMENT OF CHANGE

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An applied research project submitted to the National Fire Academy
as part of the Executive Fire Officer Program

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ABSTRACT

Smoke detector education and give-a-way programs were only marginal in their success of overcoming detector compliance barriers. The purpose of this study was to determine by evaluative research if a value change induced behavior (as demonstrated by the purchasing and installing a smoke detector) could be brought about as a result of exposure to a specific public education program. The problem was not knowing if a public education program about smoke detectors could cause a value change induced behavior (VCIB) in the parents of children K through third grade. The research questions were:

1. Within a defined group of parents, what were the corresponding percentages of children not protected by smoke detectors first in a pre-educational environment and later in a post-educational environment?
2. Did a significant measurable change occur in the number of children not protected by smoke detectors within the defined group after their parents were exposed to the materials of a public educational program which stresses the importance of smoke detectors?
3. After being exposed to the public educational program, did a VCIB (as demonstrated by a willingness to purchase and install a smoke detector) occur?

To answer these questions, survey instruments were sent to a defined group of parents through their children before and after being exposed to the public education program.

Based on the result of lowering the number of children not protected by smoke detectors from 16.26% to 8%, it was recommended that (1) the fire department should continue to use public fire education in schools as a primary way to reach a wide audience, (2) a long-term study of the continual

effectiveness of public fire education programs that result in VCIB is needed, and (3) fire safety educators need to use objective-based, methodically prepared presentations to increase VCIB's.

TABLE OF CONTENTS

ABSTRACT.....	ii
TABLE OF CONTENTS.....	iv
INTRODUCTION.....	1
BACKGROUND AND SIGNIFICANCE.....	1
LITERATURE REVIEW.....	4
PROCEDURES.....	6
RESULTS.....	8
DISCUSSION.....	9
RECOMMENDATIONS.....	10
REFERENCE LIST.....	12
APPENDIX A (Copy of Authorization).....	14
APPENDIX B (Sample of Initial Survey).....	16
APPENDIX C (Copy of First Alert® Program).....	17
APPENDIX D (Copy of Handout).....	19
APPENDIX E (Copy of Resurvey).....	21
APPENDIX F (Value Change Study Table).....	22

INTRODUCTION

The problem is not knowing if a public education program about smoke detectors can cause a value change induced behavior (VCIB) in the parents of children K through third grade. The purpose of this study is to determine by evaluative research if a value change induced behavior (as demonstrated by the purchasing and installing a smoke detector) could be brought about as a result of exposure to a specific public education program. The research questions are:

1. Within a defined group of parents, what are the corresponding percentages of children not protected by smoke detectors first in a pre-educational environment and later in a post-educational environment?
2. Will a significant measurable change occur in the number of children not protected by smoke detectors within the defined group after their parents are exposed to the materials of a public educational program which stresses the importance of smoke detectors?
3. After being exposed to a public educational program, will a VCIB (as demonstrated by a willingness to purchase and install a smoke detector) occur?

BACKGROUND AND SIGNIFICANCE

Much has been written about smoke detector compliance since their introduction in the home protection market. The Federal Emergency Management Agency reported the “from previous surveys, we know that at least 88% of the U. S. households have at least one detector” (Federal Emergency Management Agency [FEMA], 1997). Although this reflects a significant population, it is within the balance of households (12%) that 61% of the fire fatalities occur (FEMA, 1997), and ownership status does not suggest any motivational reason either to install or maintain smoke detectors (Jernigan, 1987). Children continue to die in homes not protected by smoke detectors. Tragically, in the last quarter of 1987, 28 children were killed in four house fires alone. The U. S. Fire Administration report noted that in each of these incidents smoke detectors were either not present or were placed in an area that they were not effective (FEMA, 1988). From smoke detector give-a-ways to fire education, many creative programs have been envisioned and delivered to address this contributing factor to fire deaths. Project “Smoke Alarms Saves Lives” in Fort Worth, Texas, and similar programs have distributed free smoke detectors in high risk areas for a number of years (Brooks, 1987). For some reason, many of the give-a-way programs have been determined to be ineffective. Battalion Chief James A. Angle of the South Trail (Florida) Fire Department performed an analysis to determine the effectiveness of a smoke detector give-a-way and discovered only 44% of the detectors were installed and functioning properly one-year later (Angle, 1993). Why is it then, do people choose not to protect themselves by installing and maintaining smoke detectors? There seems to be three possible answers to this question: economics, availability, and awareness/attitude.

Economics can be dismissed as a valid reason by pricing low-cost detectors on the market and reviewing Chief Angle's research paper. For less than five dollars, a certified United Laboratories smoke detector can be purchased at almost any Wal-mart or K-mart Discount Store in the nation. Although there were no costs associated with the detectors that Chief Angle's department distributed, long term compliance was not achieved. Discount, department, drug, and speciality stores all commonly stock detectors, making availability of these life saving devices a nonissue. Of the three possibly reasons listed above, awareness/attitude is the most plausible explanation of the non-compliance issue. Therefore, fire departments have searched for audiences with whom to address smoke detector compliance issues. Unfortunately, while there is interest in the adult population, surveys have shown that people may not make a special effort to attend a program devoted solely to fire safety (Porter, 1983). It is for this reason that children's school fire prevention programs are the primary focus of fire prevention activities in this country (J. Robinson, personal communication, May 21, 1998). Many public fire education programs that use the schools are quit effective (Bryan, 1979). In Management of the Fire Services, Moulton (1989) stated that "the schools are already there, and in the business of education and with a little thought, one additional use of the schools can be assisting the public in learning firesafe behaviors". Bare (1977), added that "regardless of how simple or complex the program for fire safety education is in a community, the basic tools are communication and citizen involvement". School-based programs are quite good in both of these areas. In addition to the immediate impact on the children, the fire service uses the children as a delivery mechanism to their host families. The parents and family of the exposed children are part of the three traditional audiences

known as tertiary, primary, and secondary even though they never attended a school presentation. Primary audiences (potential victims) and close relationships to the potential victims (secondary audiences) are the most frequently targeted audiences for fire prevention education in the City of Irondale, Alabama (B.King, personal communication, June 6, 1998). A tertiary audience is one that has a potential interest in the children who are the focus of this study (Batchler, 1995). Since elementary school programs are the primary delivery means of the life safety education that is presented in the City of Irondale, Alabama, it is important for those programs to be evaluated to determine their effectiveness . It is therefore the validation and justification of these efforts (measured by a value change) that is significant in this project and related to the evaluation phase (phase IV) of the change management model taught in the National Fire Academy course Strategic Management of Change.

LITERATURE REVIEW

This project considers many dimensions of human behavior. Of these dimensions, learning education, motivation and values will be considered. "Learning is the alteration of behavior as a result of individual experience" (Leahey, 1996a), whereas education is the discipline concerned with methods of teaching and learning. Motivation is factors within a human that arouse and direct goal oriented behavior (Gurolnik, 1970). Lastly, a value can be defined as a principle, standard, or quality considered worthwhile or desirable (Leahey, 1996b).

"Learning is a relatively permanent change in behavior that occurs as a result of acquiring new information", and "is further defined and divided into various classifications" (Westhoff, Murnane, Smith, and Brachage, 1970). Of these divisions, cognitive (knowledge) and affective (attitude) learning apply here. While cognitive learning can be evaluated easily, learning in the affective domain takes time to achieve and is not readily observable. To illustrate this difference, Chief Angle taught the residents how to install their free smoke detectors but a significant portion of them failed to installed or maintain them properly (Angle, 1993). They knew how to install and use the smoke detectors effectively (cognitive learning) but failed to follow through (affective learning). Another example of affective domain learning inadequacy within the general population was highlighted in a recent National Fire Protection Association [NFPA] report citing that of "39% of respondents that had a home smoke detector go off last year, only 4% reacted immediately as though there might be a fire"(Coughlin, 1998). Certainly the prevalence of this apathetic attitude has contributed to the high fire fatality statistics in the United States. Since the cognitive learning experience alone has proved to be inadequate in causing life safety behavior

changes, motivation for change has to be considered as a driving force. Humans (according to Abraham Maslow) are motivated by a hierarchy of needs. The second of these needs is security and the desire to protect oneself. Maslow believed that the need for security would motivate people to behave in a certain way (Hunt, 1993). Learning does not depend on motivation, but motivation indirectly affects learning (Cempura, 1993). For a variable to affect learning, it must require repeated practice and lead to a relative permanent change in behavior. "Motivation, in contrast, is more transitory and can be increased or decrease rapidly" (Logan, 1970). Stated differently, if a desired and significant value can be tied to the motivational need for security, cognitive and affective learning can create a lasting life safety behavior change. VCIB results from the processing of new information or rethinking of old information (Leahey, 1996b). No study could be found that evaluated VCIB as the reason for installing smoke detectors. The lack of data in this area influenced the author in selecting this topic. The desired and significant VCIB chosen for this project is the installation of smoke detectors in homes previously not protected.

The fire prevention information disseminated in this project involves the lack of smell during sleep as the reason for having smoke detectors and the First Alert® Junior Fire Inspector Program. In the report entitled "Nocturnal Olfactory Response to Smoke Odor", it was reported that a significant number of test subjects failed to be aroused from sleep by smoke odor (Lynch, 1997). For fire educators concerned with smoke detector issues, the summer of 1997 and Lynch's report will be remembered as a significant point on a fire prevention time line. The Junior Fire Inspector® program provides the knowledge (cognitive) about how, when and where while the added information about

olfactory response addresses the affective learning of why. Combining the Junior Fire Inspector® and the information about nocturnal olfactory response was recognized by the Irondale Fire and Rescue Service as a possible value changing concept when used in a public fire education setting. To determine if this combined program was salient, a process was designed to assess the effectiveness of this program in bringing about a value change.

PROCEDURES

The first step in the process was to determine smoke detector compliance within the general kindergarten through third grade student populations of Grantswood Elementary, Irondale Community, and Jefferson Christian Academy Schools. A survey instrument that was authorized by the Jefferson County School System (Appendix A is a copy of the authorization) was used to determine compliance or non-compliance. All 723 students within the grades mentioned of the three schools were sent a survey, and 326 (roughly 45%) were completed and returned (Appendix B is a sample of the initial survey.) Of the 326 respondents (the defined group), 53 or 16.26% (the study group) reported not being protected by a working smoke detector. Although the parents were considered the target audiences, the children identified as not being protected became our at-risk group for the evaluative research. The materials chosen for use and evaluation in this research was the First Alert® Junior Fire Inspector Program (Timmon, 1996) to which an information sheet had been added addressing the human body's inability to smell at night (Appendix C is a copy of the First Alert® program, and Appendix D is a copy of the

handout). The added information was used for the first time during this research, and it addresses the need for security (motivation and affective learning) that Abraham Maslow theorized. The First Alert® program had been utilized along with NFPA's Learn Not to Burn® for the previous two years in the schools selected for this project. Both programs are focused and objective based. After the surveys were returned, firefighters from the Irondale Fire and Rescue Service visited the designated classrooms and presented the smoke detector information on an interactive presentation board provided by First Alert®. In addition to this, the students were introduced to the results of Lynch's (1997) finding that humans cannot rely on their olfactory sense to protect themselves from fire during sleep. Handouts (Appendix C & D) were distributed, and the children were encouraged to take them home.

Approximately one month later, a resurvey form was sent to the children identified in the first survey as being unprotected (Appendix E is a copy of the resurvey). The purpose of the resurvey was to determine if a VCIB (demonstrated by the installation of smoke detectors) had occurred. As an incentive for the children to return the initial and/or subsequent surveys, the children were given sticker badges and a chance to win a dalmatian Beanie Baby® toy animal. The Beanie Babies® were purchased at cost from a local retail store. If the children returned all of their surveys, they were given the opportunity to guess the number of spots on a designated Beanie Baby®. In all, fifty "Dottie the Dalmatian" Beanie Babies® were given away to the children who guessed correctly.

Limitations

A significant limitation to this research involves the lack of a control group. Since the research was performed during the fire prevention awareness month of October, a control group would have helped

determine the effectiveness of this program compared to background information being distributed from other sources (i.e. handouts, newspapers, magazines, and televisions). The time limitation of six months on this project would not allow a long term evaluation of the program. It would be interesting to re-survey the target audiences one- and two-years post research to determine if a lasting change had occurred. Another limitation involves the possible reporting of a VCIB when in fact smoke detectors were installed after the initial survey but before the training was conducted. This project assessed the presence of a working smoke detector. Another limitation exists because no consideration was given to the number of smoke detectors in a household or the frequency of tests performed to determine if the smoke detectors were operational. The final limitation of this project involves the delivery of the program. Essentially, the fire department relied on a secondary audiences (students) to deliver information to the primary (parents) audiences. Asking children to deliver information and surveys to their parents is a formidable task alone. Getting the parents to return surveys raises the difficulty level many times over. In some instances, the surveys were child specific and repeated three and four times in order to report a significant confidence level in the results.

RESULTS

The results are reported in Appendix F, which is a Value Change Study Table. Forty-five percent of the surveys sent to the defined group of parents were returned, indicating that 53 or 16.26% of the children were not protected by smoke detectors. After the training was conducted, resurvey forms were sent to the 53 children identified as the study group. Forty-eight of the resurvey forms were returned, indicating 22 more children were protected by smoke detectors. Although 26 children remained unprotected, there was a 41.51 % reduction in the number of children unprotected by smoke detectors. When these improvements were applied to the original (initial) survey results, the percentage of children unprotected dropped from 16.26% (pre-education) to 8% (post-education).

After five years of intensive public fire education programs, it was unexpected to find a higher non-compliant population (16.26%) within this study's defined group than exists in the general population of the United States (12%) according to FEMA (1997).

Research Questions and Answers

1. Within a defined group of parents, what are the corresponding percentages of children not protected by smoke detectors first in a pre-educational environment and later in a post-educational environment? The answer is 16.26% for pre-education, and 8% for post-education.

2. Will a significant measurable change occur in the number of children not protected by smoke detectors within the defined group after their parents are exposed to the materials of a public educational program? The answer is yes. There was a 41.51% decrease in the number of children not protected.

3. After being exposed to a public educational program, will a VCIB (as demonstrated by a willingness to purchase and install a smoke detector) occur? The answer is yes. Based on the reduction of the number of children (53 to 26) not protected by smoke detectors, a VCIB (installing smoke detectors) did occur.

DISCUSSION

No value change study could be found to compare the findings of this study; however, a comparison can be inferentially made to surveys reported by the federal government. Nationally, 12% of the U.S. homes are not protected by smoke detectors (FEMA, 1997). The initial survey reported that 16.27% of the defined group was unprotected. That figure was reduced to 8% after exposure to training and materials. Clearly, a reduction in the number of children not protected by smoke detectors is a goal of the American fire service. The Irondale Fire and Rescue Service is interested in obtaining this goal through an effective delivery means. The 41.51% decrease in the number of students unprotected by smoke detectors after exposure to the education and handouts validates the program as an effective tool in causing VCIB's. . Chief Angle's study (1993) reported that just giving away smoke detectors was not enough to ensure smoke detector compliance. The program used in this study taught the residents why and how as opposed to just how. The success of this program encourages a system wide implementation of similar programs.

The dramatic reduction in the number of children not protected by smoke detectors realized in this

study should encourage fire educators in their various endeavors. As for the public fire education resolve of the Irondale Fire and Rescue Service, the success identified in this study allows a fiscally responsible fire chief to commit precious resources in a justifiable way. The Irondale Fire and Rescue Service will continue to utilize school children to deliver life safety education. As a footnote to the discussion of results, the fire department provided detectors to the families of children that remained unprotected at the end of the study.

RECOMMENDATIONS

The recommendations of the research are three.

1. Fire department should continue to use public fire education in schools as a primary way to reach a wide audience.
2. A long-term study of the continual effectiveness of public fire education programs that result in VCIB is needed.
3. Fire safety educators need to use objective-based, methodically prepared presentations to increase VCIB's.

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APPENDIX A

(Copy of Authorization)


JEF-COE
Jefferson County Board Of Education

2100 18th Street South
Birmingham, Alabama 35209-1891
Telephone 205/930-3800

September 12, 1997

BOARD OF EDUCATION

Mr. G. Thomas Surtees
President

Mrs. Jackie Davidson
Vice-President

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Mr. David Lott

Dr. H. Bruce Wright
Superintendent

MEMORANDUM

Mr. Rick Lazenby, *Director of Student Services*

FROM: Phil Hammonds

Request from City of Irondale Fire Department

This follows up our conversation of earlier this week regarding Fire Chief Joe Lynch's request for permission to send home with elementary school students a survey relating to smoke detectors.

As the survey does *not* identify individuals and is related solely to life safety, Chief Lynch has permission to proceed with the survey. The proper channel of going through the affected schools' principals should be followed in the process of distributing and collecting the surveys. Thank you.

Jrb

cc: Dr. Bruce Wright, *Superintendent*
Dr. Jerry Mitchell, *School Group Director*

Appendix B
Initial Survey

LIFE SAFETY SURVEY

Dear Parents,

My name is Joe Lynch and I serve as the Fire Chief for the City of Irondale. The Irondale Fire Department is interested in obtaining information on smoke detector use and testing in our area. Please complete the following questionnaire and return to your child's teacher. Each parent of a child in the grades K4 through 3rd are requested to fill out one form for each child. Please don't forget to return your form by **FRIDAY, SEPTEMBER 19, 1997!** This form is part of an intensive life safety program that your fire department and school are involved in. Also, by returning this form, your child will meet part of the requirements of a promotional program to be announced later by the teachers. You will be receiving additional information within the next several weeks concerning this program. The results of this program will be reported in a future PTO newsletter.

Child's first name and last initial _____

Teacher _____ Grade _____

School _____

Question:

Is your home currently protected by a working smoke detector?

Yes _____ No _____

Thank-you

Joe Lynch, Fire Chief

APPENDIX C

(Copy of First Alert® Program)



Dear Parent,

Today your child has participated in a fire safety presentation at school and was sworn in as a First Alert Junior Fire Inspector.

We know fire safety begins at home, therefore we've asked that their first duty is to conduct a fire safety check of their own home.

Please help us by participating with your child in completing the room-by-room fire safety checklist enclosed in this brochure. It will help you determine if your home and family are fire safe.

It's a fact that 2 out of 3 lives taken by fire could have been saved with the proper installation and maintenance of smoke alarms and fire extinguishers. That is why this is one of the most important assignments your child may ever have to complete.

In addition to completing the checklist, your First Alert Junior Fire Inspector has taken a pledge to make sure their home has a smoke alarm on every level and in every bedroom, to test smoke alarm batteries monthly, to check to see if the smoke alarms are in good working condition or have yellowed with age (smoke alarms should be replaced every 10 years), to help create a fire emergency escape plan, to report all fires and fire hazards to an adult immediately, and to never play with matches. The escape plan should be **practiced** by all household members from time to time, so that everyone knows exactly what action to take in the event of what can be a frightening and confusing emergency situation.

We'd also like to bring to your attention another potential hazard in the home—carbon monoxide poisoning. This season it is most common, as people turn on their home heaters. In fact, carbon monoxide is the #1 cause of poisoning deaths in America.

Carbon monoxide is so dangerous because it is a colorless and odorless gas. There is simply no way to know it's present unless you have a carbon monoxide alarm in your home.

In the meantime, please help your Junior Fire Inspector complete the in-home fire safety checklist. When the checklist is completed, your child should return it to their teacher who will approve it and award your child a signed certificate for successfully completing this task.

As the sponsor of this program, First Alert plans to enlist over 2 million First Alert Junior Fire Inspectors all across the country during this school year. That's 2 million homes that will be fire safe!

Junior Fire Inspectors have been asked to take their new official role very seriously. We hope that you will support this effort wholeheartedly. It just might help save a life.

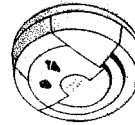
JUNIOR FIRE INSPECTORS ... FIRE SAFETY STARTS AT HOME

COMPLETE THIS FIRE SAFETY CHECKLIST & RETURN TO YOUR TEACHER



SMOKE ALARMS

- There is at least one on every level.
- There is one in EVERY bedroom.
- Each alarm is tested & cleaned regularly.
- Each alarm's battery is changed twice a year.
- We know a chirping sound means the battery is low.
- We know to replace smoke alarms every ten years, or if it has become yellow due to extended age.



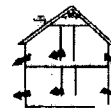
YES, WE'RE
FIRE SAFE!

NEEDS
ACTION

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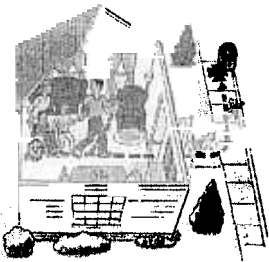

FIRE EXTINGUISHERS

- There is a fire extinguisher on every level.
- There is a fire extinguisher in the kitchen.


☐
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☐

MY FAMILY'S ESCAPE PLAN

- We know a smoke alarm ringing means get out NOW!
- We know at least (2) exits from each room.
- We know to crawl low to the floor when escaping.
- We know to touch the doorknobs for heat before opening doors.
- We know the place outside our home to meet after our escape.
- We know once we're out to STAY OUT.
- Everyone in our family has practiced the plan.


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WHEN REPORTING A FIRE

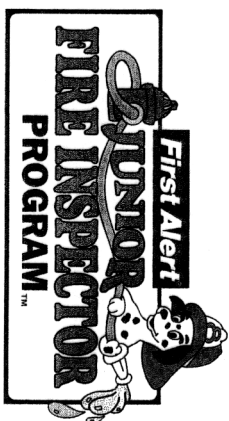
- We know our fire emergency phone number.
- We know to call from a neighbor's house.
- We know to stay calm, speak slowly, give our name, address and phone number and not hang up until the other person hangs up.

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PARENT'S SIGNATURE _____

JUNIOR FIRE INSPECTOR SIGNATURE _____

This checklist is designed to provide the public with general information on fire safety. The information is compiled from sources believed to represent the best current opinion on the subject. First Alert assumes no liability for any actions taken by persons based on the information herein.



Junior Fire Inspector Certificate of Recognition

This certifies that _____ has

completed the First Alert Junior Fire Inspector Program and successfully conducted the in-home checklist. In accepting this Certificate, the First Alert Junior Fire Inspector acknowledges the responsibility of practicing fire safety and alerting adults to potential fire hazards.



Teacher's Signature _____

Date _____



THE FIRST ALERT JR. FIRE INSPECTOR PLEDGE

As a First Alert Junior Fire Inspector, I _____, pledge to always be on the lookout for fire hazards and to help keep my family safe by doing all I can to prevent fires and make sure my home is fire safe.

It is my duty to:

1. Make sure my home has (1) working smoke alarm on every level and in every bedroom.
2. Make sure all smoke alarms are cleaned and the batteries are checked at least once a month.
3. Make sure my home has at least (1) fire extinguisher on every level ...and in the kitchen.
4. Help plan and practice a fire escape plan with my family.
5. Report any fire immediately to an adult or call 911 from a neighbor's house.
6. Never play with matches or lighters.

accept this responsibility from now on as an official Junior Fire Inspector.

First Alert ...Because your family comes first!

APPENDIX D

(Copy of Handout)

“Nocturnal Olfactory Response to Smoke Odor”

People generally perceive that they are safe from fire in their home. One typical response is that, if asleep, the smell of smoke will wake them up. This attitude might explain part of the casual response to keeping smoke alarms operable. If a homeowner thinks that he will be awakened in time to escape, replacing a smoke alarm's dead battery may become a low priority.

Will the smell of smoke wake you? Fire Chief Joe Lynch of Irondale, Alabama had always believed that a person's sense of smell was dulled when asleep. In a manner of speaking, the ability to smell went to sleep when the person nodded off. The assumption had been passed down to him by training officers, and he made the fact a focal point of his public-education presentations. Then a multiple fatality fire in south Alabama made him question the idea.

The fire victims were found near a window, so it was clear that they had died after waking and trying to escape. What was not clear was what woke them? Opinions were split between those who thought the smoke stirred the victims from sleep and those who thought that their depressed sense of smell when asleep prevented that from happening. His curiosity piqued, Chief Lynch began a systematic search of the medical literature.

The search trail led him through 25 libraries, medical institutions, government and private repositories. He learned that we know a lot about sleep stages, sleep disorders, circadian rhythms and the effect of age on sleep. But little was known about sleep and the sense of smell, at least not enough to answer his question. Lynch did find a study that found that the sense of smell may lessen with age, but smoke was not one of the odors tested.

The search became an applied research project for the Executive Fire Officer program at the National Fire Academy. Its title is “Nocturnal Olfactory Response to Smoke Odor.” With the cooperation of the Sleep Disorder Center at the University of Alabama (Birmingham), Chief Lynch developed an experiment that observed the response of sleeping subjects to smoke, a non-threatening odorant (citrus) and a placebo (water). The Center personnel were eager to assist after seeing the paucity of the research on the subject.

Ten subjects ranging in age from 26 to 61 were selected from volunteers who were patients at the center. Each subject was screened for normal response to the odorants while awake before being accepted. The fully equipped facilities at the Center allowed the experimenters to accurately atomize and disperse equal amounts of the liquids (a smoke flavoring used as a food additive smelled just like wood smoke). Electrodes recorded respirations, pulse rate, eye and muscle movement, heart rhythms and brain waves. Sleep states were measured with a device called a polysomnography machine and direct observation via an infrared camera.

The odorants were administered after each subject reached the same sleep stage, as confirmed by EEG readings. The odorants were introduced into the room from a nebulizer located in another room and routed via a hose. Each exposure lasted 90 seconds.

Only two of the ten subjects were aroused from sleep by the smoke odor. What had been a piece of conventional wisdom was now confirmed by controlled experiment. Now that he has experimental evidence that people are less likely to smell when asleep, Chief Lynch has added the fact back to his lesson plans. Public educators can now say with some authority that fire detection and suppression alarms are the only prudent method of alerting sleeping persons to a fire in their home.

Appendix E
Copy Of The Resurvey

LIFE SAFETY RE-SURVEY

Dear Parents,

You might remember filling out a survey similar to this one several weeks ago, many of which you were kind enough to return. Since that time, we have shared a number of important messages about smoke detectors with your children. Hopefully, you have received this material and reviewed it with your children. Once again we would like for you to spend a moment in filling out this survey to determine what effect this educational program had on our citizens. **Return this form to your child's teacher.** Thank-you for your time and contribution in making our community a safer place to live. Please don't forget to return your form by **FRIDAY, November 21, 1997!** This form is part of an intensive life safety program that your fire department and school are involved in. The results of this program will be reported in a future PTO newsletter.

Child's first name and last initial

Teacher

Grade

School

Question:

Is your home currently protected by a working smoke detector?

Yes _____

No _____

Thank-you

Joe Lynch, Fire Chief

APPENDIX F
Value Change Study Table

Initial Surveys

	Total	Percentages
Surveys	723	100
Responses	326	45

Initial Survey Results
(before training and materials)

Responses (defined group)	326	100
Negative (Unprotected) Responses (study group)	53	16.26

Resurvey Results of Study Group
(after training and materials)

Total Responses	48	100
Total Negative (Unprotected) Responses	26	54

Comparison Between Initial Survey and Resurvey of the Study Group
(before and after training and materials)

Initial Negative (Unprotected) Responses	53	100
Resurvey Negative (Unprotected) Responses	26	100
Decrease in the Number of Negative (Unprotected) Responses	22	41.51

Improvements Applied to Initial Survey Results
(within study group after training and materials)

Responses	326	100
Negative (Unprotected) Responses-adjusted	26	8